

# Research on the brand construction path of Wenzhou characteristic agricultural products in the digital era

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## Abstract

In the tide of the digital era, the brand construction of Wenzhou characteristic agricultural products has ushered in unprecedented opportunities and challenges. This paper deeply discusses the brand building path of Wenzhou characteristic agricultural products in the digital era, aiming to inject new vitality into this traditional industry. Through the detailed analysis of Wenzhou's geographical environment, climate conditions and agricultural resources, it is found that Wenzhou characteristic agricultural products not only have unique natural endowment, but also contain profound cultural deposits. However, the current brand construction problems, such as fuzzy brand positioning and single communication channel, seriously restrict its market competitiveness. This paper proposes that the brand building in the digital era should pay attention to the differentiation strategy, and make Wenzhou characteristic agricultural products stand out in the fierce market competition through accurate brand positioning and innovative marketing means. This paper suggests that emerging communication methods such as social media, content marketing, live broadcasting and goods should be used to build a diversified brand communication system to enhance brand awareness and reputation. At the same time, the government should provide strong policy support and institutional guarantee, promote technology research and development and talent training, and provide a solid technical backing for the brand construction.

## Keywords

Digital era, Wenzhou characteristic agricultural products, brand building, differentiation strategy, marketing communication.

## 1. Introduction

Under the background of the digital era, the brand construction of Wenzhou characteristic agricultural products is facing unprecedented opportunities and challenges. With the rapid development of information technology, the market competition of agricultural products is becoming increasingly fierce<sup>[2]</sup>, Brand building has become a key factor to enhance the added value of agricultural products and market competitiveness. Wenzhou, a city with a long history and profound cultural deposits, has rich agricultural resources and a unique geographical environment<sup>[3][4]</sup>, Giving birth to many unique agricultural products, such as ou orange, bayberry, tea and so on. Although Wenzhou is rich in characteristic agricultural products resources, there are still many deficiencies in brand construction, such as low brand awareness, weak market competitiveness, and single means of brand communication problems. These problems not only restrict the market expansion of Wenzhou characteristic agricultural products, but also affect the growth of farmers income and the sustainable development of agriculture<sup>[5]</sup>.

The purpose of this study is to systematically analyze the background, current situation and problems of Wenzhou characteristic agricultural products brand construction in the digital era,

put forward the scientific and reasonable brand building path and safeguard measures, and provide theoretical support and practical guidance for the brand construction of Wenzhou characteristic agricultural products. The significance of the research is that it not only helps to improve the market competitiveness and brand value of Wenzhou characteristic agricultural products, but also provides reference and reference for the brand construction of agricultural products in other regions<sup>[6][7]</sup>. The scope of this research mainly focuses on the brand building of Wenzhou characteristic agricultural products, and the research methods include literature analysis, case study, field research and expert interview<sup>[7]</sup>. Through these methods, we can comprehensively understand the current situation and problems of the brand construction of Wenzhou characteristic agricultural products, put forward scientific and reasonable brand construction path and safeguard measures, and provide theoretical support and practical guidance for the brand construction of Wenzhou characteristic agricultural products.

## **2. Theoretical basis for the brand construction of Wenzhou characteristic agricultural products in the digital era**

### **2.1. Basic theory of brand building**

Brand building, as one of the core strategies in the modern market economy, its basic concept, theoretical framework and main content constitute the cornerstone of enterprise competitiveness. Brand is not only a logo or name, but also the overall cognition and emotional connection of consumers to the product or service. Brand positioning, as the first step of brand building, aims to establish a unique position of the brand in the hearts of consumers through clear market segmentation and target group selection. Wenzhou's special morning tangerine, through accurate brand positioning, has successfully occupied a place in the highly competitive agricultural products market<sup>[8]</sup>.

Brand image is the embodiment and visualization of brand positioning, which conveys the core value and personality of the brand through various forms, such as logo, packaging and advertising. A successful brand image, can effectively attract the attention of the target consumers, and leave a deep impression in their hearts. Yongan City, through its unique packaging design and advertising, has successfully shaped a high-quality, healthy and green brand image.

Brand communication is the key link of brand building. It transmits the value and information of the brand to consumers through various communication channels and means. In the digital era, the ways and means of brand communication have undergone great changes. Emerging communication methods such as social media, content marketing and live streaming have provided more possibilities and innovation space for brand communication<sup>[10][11]</sup>. Through social media platforms, Wenzhou's featured agricultural products can interact more directly with consumers and enhance the affinity and influence of the brand.

The basic theory of brand building not only includes brand positioning, brand image and brand communication, but also involves brand management, brand protection and other aspects<sup>[12]</sup>. Brand management is to ensure the sustainable development and market competitiveness of the brand through systematic strategies and measures. Brand protection is to prevent the infringement and abuse of the brand through legal means and market monitoring, and to safeguard the legitimate rights and interests of the brand<sup>[12]</sup>. By strengthening brand management and protection, Wenzhou's featured agricultural products brands can maintain their uniqueness and market position in the fierce market competition.

The basic theory of brand construction provides solid theoretical support and practical guidance for the brand construction of Wenzhou characteristic agricultural products. Through scientific brand positioning, unique brand image and effective brand communication,

Wenzhou featured agricultural products brands can stand out in the market competition in the digital era and realize the sustainable development of the brand as shown in Table 1.

Table 1 Theoretical dimension case of Wenzhou agricultural products brand construction

Theoretical dimension	Content description	illustrate
Basic concept of brand building	The core strategy of modern market economy is the cornerstone of enterprise competitiveness	Wenzhou special early tangerine in the agricultural products market to occupy a place
brand positioning	Clear market segmentation and target groups, to establish a unique brand position	Wenzhou special early tangerine precision positioning, successful competition
brand image	The concretization and visualization of positioning convey the core values through various forms	Yongan city unique packaging and advertising, shaping a high quality image
brand communication	Transfer of brand value and information through various channels	Wenzhou featured agricultural products use social media to interact with consumers
brand management	System strategies and measures to ensure the brand sustainable development and market competitiveness	Wenzhou characteristic agricultural products to strengthen the management, to maintain the market position
brand protection	Legal means and market monitoring to prevent infringement and abuse, and safeguard legitimate rights and interests	Wenzhou characteristic agricultural products brand protection, to maintain the uniqueness[14]

## 2.2. New characteristics of brand building in the digital era

In the digital era, brand construction presents unprecedented new characteristics, which not only change the mode of traditional brand construction, but also bring new opportunities and challenges for the brand construction of Wenzhou characteristic agricultural products. Digitalization, networking and intelligence have become the core elements of brand construction in this era, which have a profound impact on the brand building and marketing of Wenzhou characteristic agricultural products.

Digitalization is the foundation of brand building in the digital era. The wide application of digital technology has greatly improved the transmission speed and scope of brand information. Through big data analysis, brands can accurately locate target consumers and develop personalized marketing strategies. Wenzhou characteristic agricultural products can use digital means to establish a product traceability system to enhance consumers trust in products. Digitization also promotes the interaction between brands and consumers. Through social media platforms, brands can understand consumers needs and feedback in real time and adjust brand strategies in a timely manner.

Networking is another important feature of brand building in the digital age. Networking not only refers to the network dissemination of brand information, but also includes the network interaction between the brand and consumers. Online platforms, such as e-commerce platforms, social media, etc., provide a broad market space for Wenzhou featured agricultural products<sup>[15]</sup>. Through the e-commerce platform, Wenzhou's featured agricultural products can directly face the whole country or even the global consumers, breaking the regional restrictions. Networking also promotes the deep interaction between the brand and consumers. Consumers can participate in the brand construction process through the network platform, enhancing the affinity and loyalty of the brand.

Intelligence is the advanced form of brand construction in the digital era. The application of intelligent technology makes the brand construction more accurate and efficient. Through artificial intelligence technology, brands can realize intelligent customer service, intelligent recommendation and other functions, and improve consumers shopping experience<sup>[16]</sup>. Wenzhou characteristic agricultural products can use intelligent technology to develop intelligent agricultural management system, improve production efficiency and product quality. Intelligence also promotes the personalized customization of the brand, and consumers can customize personalized agricultural products according to their own needs, and enhance the competitiveness of the brand<sup>[17]</sup>.

These new characteristics have had a profound impact on the brand construction of Wenzhou characteristic agricultural products. The application of digital, network and intelligent makes the brand construction of Wenzhou characteristic agricultural products more efficient and accurate. These new features promote the deep interaction between the brand and consumers, and enhance the affinity and loyalty of the brand. These new features provide a broad market space for Wenzhou characteristic agricultural products, break the regional restrictions, so that the brand can face the national or even global consumers.

The new features of brand building in the digital age also bring new challenges. The application of digital technology needs a large amount of capital and technical support, which puts forward higher requirements for the brand construction of Wenzhou's characteristic agricultural products. The development of network has also brought the problem of information overload. How to stand out from the massive information has become an important topic. Although the application of intelligent technology improves the efficiency and accuracy of the brand, it also brings the problems of data security and privacy protection.

The new characteristics of brand construction in the digital era bring new opportunities and challenges to the brand construction of Wenzhou characteristic agricultural products<sup>[13]</sup>. Wenzhou characteristic agricultural products should make full use of the advantages of digital, network and intelligent to enhance the brand competitiveness and market influence. At the same time, we should also actively respond to the challenges brought about by digitalization, networking and intelligence to ensure the sustainable development of brand building as shown in Table 2.

Table 2 Influence of the characteristics of the digital age on Wenzhou characteristic agricultural products

characteristic	description	The impact on Wenzhou characteristic agricultural products
digitalize	Based on the big data analysis, improve the speed and scope of transmission, and establish the product traceability system	Improve the accuracy of brand positioning, enhance consumer trust,

		and promote the interaction between the brand and consumers
networking	Brand information network communication, network platform market space, brand and consumer network interaction	Break the geographical restrictions, provide a broad market, enhance the brand affinity and loyalty
intelligentize	The application of artificial intelligence technology to achieve intelligent customer service, recommendation, personalized customization	Improve production efficiency and quality, enhance shopping experience, and enhance brand competitiveness
favourable circumstances	Efficient and accurate brand building, deep interaction, broad market space	Brand building is more efficient, enhance the brand power, expand the market
throw down the gauntlet	High financial and technical requirements, information overload, data security and privacy protection issues	More investment, how to stand out from the information and protect data security

### 3. The Current situation analysis of Wenzhou characteristic agricultural products brand construction

#### 3.1. The resource endowment of Wenzhou featured agricultural products

Wenzhou, this rich land, with its unique geographical environment and climate conditions, has given birth to a large number of characteristic agricultural products. These resource endowments not only provide a solid foundation for the brand construction, but also add unique advantages to the market competition. Wenzhou is located in the southeast of Zhejiang Province, bordering the East China Sea in the east and Fujian Province in the south. It has diverse terrain, mountainous hills and plains. This geographical diversity provides natural conditions for the diversity of agricultural products<sup>[18][19]</sup>. Yongjia County's special morning tangerine, thanks to its unique mountain climate and soil conditions, full fruit, sweet taste, has become a local name card.

In terms of climate conditions, Wenzhou is a subtropical monsoon climate, with four distinct seasons, abundant rainfall and sufficient light. This climate characteristic is very suitable for the growth of crops<sup>[20]</sup>. According to statistics, the annual average temperature in Wenzhou is between 17-19 degrees Celsius, and the annual precipitation is between 1500-2000 mm. This mild and humid climate provides an ideal environment for the growth of tea, citrus, bayberry and other characteristic agricultural products. Cangnan county bayberry, because of its unique climate conditions, large and full fruit, sweet and sour moderate, loved by consumers, become a major local characteristic agricultural products.

In terms of agricultural resources, Wenzhou is rich in agricultural resources, including arable land, woodland, water area, etc. According to statistics, the arable land area of Wenzhou is about 1.5 million mu, the forest land area is about 10 million mu, and the water area is about 500,000 mu. These resources provide a broad space for the diversified production of agricultural products<sup>[13]</sup>. The tea in Wencheng County, benefiting from its rich forest resources and suitable

altitude, has excellent quality and rich aroma, and has become a major local characteristic agricultural products.

The impact of these resource endowments on brand building is multifaceted. The geographical environment and climatic conditions provide a guarantee for the quality of agricultural products, which makes Wenzhou's characteristic agricultural products have a high competitiveness in the market<sup>[13]</sup>. Abundant agricultural resources provide the possibility for the diversified production of agricultural products, making Wenzhou's agricultural products brand more rich and three-dimensional. These resource endowments also provide a basis for the differentiated positioning of the brand, making Wenzhou's featured agricultural products have a unique selling point in the market<sup>[13]</sup>.

The resource endowment of Wenzhou characteristic agricultural products provides a solid foundation for its brand construction. These resources not only guarantee the quality of agricultural products, but also provide the possibility for the differentiated positioning of the brand, making Wenzhou's characteristic agricultural products have a unique competitiveness in the market<sup>[13]</sup>.

### 3.2. Current situation of brand construction of Wenzhou characteristic agricultural products

The current situation of brand construction of Wenzhou characteristic agricultural products presents a complex and diversified picture, which has not only made remarkable achievements, but also has problems and deficiencies that cannot be ignored as shown in Figure 1. From the perspective of the number of brands, Wenzhou's featured agricultural products brands have begun to take shape, covering tea, tangerine, asparagus and other categories. According to the data, by the end of 2022, the number of registered featured agricultural products brands in Wenzhou has reached more than 120, which is at the upper middle level in Zhejiang Province, showing Wenzhou's active efforts in the construction of agricultural products brands.

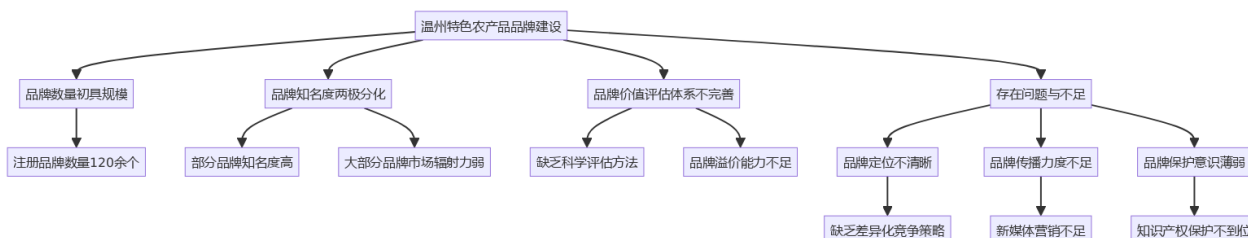


Figure 1 Current situation of brand construction of Wenzhou characteristic agricultural products

Brand awareness shows an obvious polarization phenomenon. Some brands such as "Yongjia Wuniu Morning Tea" and "Ruian Mayu tangerine" have enjoyed high popularity inside and outside the province, while most brands are still in the regional market, and even some brands are only limited to the local market, failing to form an effective market radiation force. This unbalanced distribution of brand awareness not only limits the overall influence of the brand, but also restricts the market expansion potential of Wenzhou's characteristic agricultural products.

In terms of brand value, the brand value evaluation system of Wenzhou characteristic agricultural products is not perfect, and it lacks scientific and systematic evaluation methods. Although some brands, such as "Wencheng Gaoshan Tea" and "Pingyang Huang Tang", have achieved certain economic benefits in the market, but from the overall perspective, the improvement of brand value still faces many challenges. The lack of brand premium ability and the low loyalty of consumers to the brand all directly affect the long-term value of the brand.

In the process of investigation and analysis, we found that there are several main problems and deficiencies in the brand construction of Wenzhou characteristic agricultural products: brand positioning is not clear, lack of differentiated competition strategy. Many brands are too homogeneous in their positioning, failing to form a unique brand personality and market positioning, resulting in fierce market competition and difficult for brands to stand out. Brand communication strength is insufficient, and the marketing means are single. Although the arrival of the digital era has provided new opportunities for brand communication, Wenzhou featured agricultural products brands are still insufficient in the use of new media, social media and other platforms for brand communication, and the traditional marketing means still occupy a dominant position<sup>[21]</sup>. Brand protection awareness is weak, and intellectual property rights protection is not in place. In the process of development, some brands ignore the protection of brand intellectual property rights, which leads to the phenomenon of brand counterfeiting and infringement from time to time, which seriously damages the reputation and market competitiveness of the brand.

The brand construction of Wenzhou characteristic agricultural products has made some achievements in the number of brand, brand awareness and brand value, but there are still problems and deficiencies such as unclear brand positioning, insufficient brand communication, and weak brand protection awareness. These problems not only restrict the further development of Wenzhou characteristic agricultural products brand, but also affect the overall competitiveness of Wenzhou agriculture. Therefore, how to effectively solve these problems in the background of the digital era and enhance the overall competitiveness of Wenzhou characteristic agricultural products brand is an important issue to be solved at present<sup>[22]</sup>.

## **4. Path selection of Wenzhou characteristic agricultural products brand construction in the digital era**

### **4.1. Brand positioning and differentiation strategy**

In the digital era, the importance of brand positioning is becoming more and more prominent, especially in the brand construction of Wenzhou characteristic agricultural products. Accurate brand positioning can not only help agricultural products stand out in the fierce market competition, but also effectively enhance the brand recognition and reputation<sup>[23]</sup>. Wenzhou, this rich land, with its unique geographical environment and rich agricultural resources, gave birth to many unique agricultural products, such as ou orange, Wencheng bayberry, Taishun tea and so on. In the face of increasingly diversified market demand and consumers increasing attention to quality and brand, how does Wenzhou characteristic agricultural products stand out among many competitors has become a major topic in front of brand builders.

Differentiation strategy is put forward to solve this problem. The core of the differentiation strategy is to form a unique competitive advantage in the market through the unique brand positioning<sup>[24]</sup>. As a characteristic fruit of Wenzhou, the brand positioning of ouorange can focus on "natural, healthy and delicious". By emphasizing its characteristics without pesticide residue and rich in vitamin C, it attracts consumer groups that pay attention to healthy diet. At the same time, we can use digital platforms, such as digital media and e-commerce platforms to carry out precision marketing, and promote the brand image of Ouorange in the hearts of the people<sup>[25]</sup>.

The brand positioning of Wencheng bayberry can focus on "fresh, sweet and seasonal limited", and attract consumers who pursue fresh experience by emphasizing the short freshness and freshness of its picking season. In terms of marketing strategy, it can be combined with local tourism resources to launch activities such as "red bayberry picking tour" to enhance consumers sense of participation and experience. Taishun tea can be positioned as "high mountain, organic and cultural inheritance", attracting consumers who pursue high quality and

cultural connotation by emphasizing the high altitude and organic planting mode of its growing environment, as well as the deep combination with the local tea culture.

In order to more intuitively show the effect of the differentiation strategy, we can compare the market performance of different brands through the following table as shown in Table 3:

Table 3 Market Comparison of brand positioning of different agricultural products in Wenzhou

Brand name	brand positioning	Market performance
Ou orange	Natural, healthy, and delicious	Sales volume increased by 20%, and brand awareness increased by 15%
Wencheng bayberry	Fresh, sweet, seasonal limited	Sales rose 18%, and consumer participation rose 25 percent
Taishun tea	Alpine, organic, cultural inheritance	Sales volume increased by 22%, and brand reputation increased by 20%

Through the implementation of the above differentiation strategy, Wenzhou characteristic agricultural products not only occupy a favorable position in the market, but also successfully shaped a unique brand image and won the favor of consumers. Brand building is not achieved overnight. In the future, we still need to innovate and optimize to cope with market changes and the continuous upgrading of consumer demand<sup>[26]</sup>.

In the future brand construction, Wenzhou characteristic agricultural products should continue to deepen the brand positioning, and constantly explore and innovate the differentiation strategy, in order to remain invincible in the market competition in the digital era. This is not only the full use of Wenzhou agricultural resources, but also a strong promotion of the inheritance and development of Wenzhou culture.

#### 4.2. Brand communication and marketing strategy

In the digital era, the innovation of brand communication and marketing strategy has provided unprecedented opportunities for Wenzhou characteristic agricultural products. Emerging communication approaches such as social media marketing, content marketing, and live streaming not only broaden the influence of the brand, but also greatly enhance consumer participation and brand loyalty<sup>[27]</sup>.

Social media marketing, as an important means of brand communication in the digital era, Wenzhou featured agricultural products can quickly reach the target consumers through Weibo, wechat, TikTok and other platforms. Wenzhou's "Ougan" brand has attracted a large number of followers by launching seasonal promotions on Weibo, with the number of followers growing by 30 percent in just a month. This efficient way of communication not only enhances the brand awareness, but also enhances the consumers trust in the brand.

Content marketing is about attracting and retaining target audiences by creating valuable content. Wenzhou's "Wencheng bayberry" brand, in collaboration with famous food bloggers, has produced a series of short videos and pictures about bayberry, detailing the planting process, nutritional value and eating methods of bayberry. The content has not only gained high clicks on social media, but also triggered consumers desire to buy, directly driving online and offline sales growth.

As a new marketing method emerging in recent years, live streaming enhances the shopping experience of consumers through real-time interaction. Wenzhou's "Ruian Tea" brand invited famous local tea artists to live, show the brewing process of tea and answer consumers questions. This face-to-face communication method not only improves the speed of consumers

purchase decisions, but also enhances the affinity of the brand. According to statistics, during the live broadcast, the sales of tea increased by 50%, showing the huge potential of live broadcast with goods. To more intuitively demonstrate the effects of these marketing strategies, we can summarize them in Table 4:

Table 4 The index effect of the innovation of marketing strategy on the marketing of Wenzhou characteristic agricultural products

marketing strategy	concrete measure	Effect index	Data performance
Social Media Marketing	Weibo posts seasonal promotions	The number of fans is growing	30%
Content marketing	Work with food bloggers to create short videos and graphic content	Click-through rates and sales growth	High click-through rate, and sales growth
Live with goods	Invite tea art masters to conduct live display and interaction	Sales growth	50%

To better understand the implementation process of these marketing strategies, we can present the process through the following mermaid diagram:

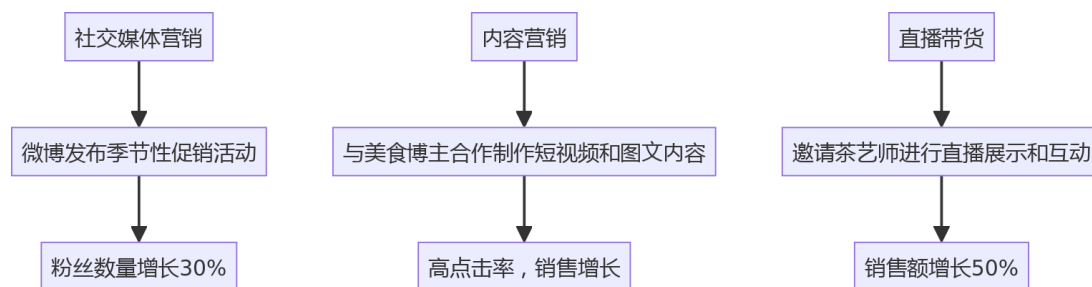


Figure 2 Implementation process diagram of marketing strategy

The brand communication and marketing strategy in the digital era provide diversified promotion ways for Wenzhou characteristic agricultural products. Through social media marketing, content marketing, live delivery and other means, Wenzhou featured agricultural products not only enhance the brand awareness and influence, but also enhance the participation and loyalty of consumers, laying a solid foundation for the future brand building<sup>[28][29]</sup>.

## 5. Guarantee measures for Wenzhou characteristic agricultural products brand construction in the digital era

### 5.1. Policy support and institutional guarantee

In the digital era, the role of the governments role in the brand construction of Wenzhou characteristic agricultural products has become increasingly prominent, and its policy support and institutional guarantee have become the key factors to promote the brand development<sup>[30]</sup>. Through formulating a series of policies and measures, the government not only provides a solid institutional guarantee for the brand construction of agricultural products, but also stimulates the enthusiasm and creativity of market entities through the means of financial subsidies and tax incentives<sup>[31][32]</sup>. In recent years, Wenzhou municipal government issued

several Opinions on Accelerating the Development of Modern Agriculture, which clearly proposed that we should increase the brand cultivation of featured agricultural products, and through the establishment of special funds to support the market promotion and publicity activities of agricultural products brands. The implementation of these policies and measures has greatly enhanced the market competitiveness and brand influence of Wenzhou characteristic agricultural products<sup>[33][34]</sup>.

The role of the government in the digital age is not only reflected in the policy formulation, but also reflected in its guidance and support for the brand construction of agricultural products. Through the establishment of a sound quality and safety supervision system of agricultural products, the government has ensured the quality and safety of agricultural products, and laid a solid foundation for the brand construction<sup>[36][37]</sup>. Wenzhou municipal government has cooperated with a number of scientific research institutions to establish a quality and safety traceability system for agricultural products. Consumers can scan the QR code to understand the whole process information of the production, processing and transportation of agricultural products in real time, which not only enhances the trust of consumers, but also provides strong technical support for brand building<sup>[38]</sup>.

The government also held various kinds of agricultural products exhibitions, promotion meetings and other activities to build a platform for the display and exchange of Wenzhou characteristic agricultural products. The annual "Wenzhou Agricultural Products Expo" has attracted a large number of domestic and foreign merchants and consumers, which not only improves the popularity of Wenzhou characteristic agricultural products, but also provides a broad market space for brand construction<sup>[39]</sup>. The government has also expanded the market channels for brands by cooperating with e-commerce platforms to promote online sales of agricultural products. The Wenzhou municipal government has signed strategic cooperation agreements with Alibaba, Jingdong and other e-commerce platforms, and promoted the online sales of Wenzhou featured agricultural products through online live broadcasting, e-commerce promotion and other ways, and achieved remarkable results<sup>[40]</sup>.

In terms of institutional guarantee, the government has provided a strong legal guarantee for the brand construction of agricultural products by improving laws and regulations<sup>[41]</sup>. The Management Measures of Wenzhou Agricultural Product Brand Construction issued by Wenzhou Municipal government has clarified the norms and standards of agricultural product brand construction, and provided a clear guidance and basis for brand construction. The government has also established a sound intellectual property protection mechanism to protect the legitimate rights and interests of agricultural products brands and prevent the occurrence of brand infringement<sup>[42]</sup>. Wenzhou municipal government has cooperated with a number of intellectual property protection agencies and established an intellectual property protection platform for agricultural products brands, which has severely cracked down on brand infringement through legal means and maintained the market order of brands.

The role of the government in the brand construction of Wenzhou characteristic agricultural products in the digital era cannot be ignored. Through policy support and institutional guarantee, the government has provided all-round support for the brand construction of agricultural products brand, and promoted the rapid development of Wenzhou characteristic agricultural products brand<sup>[43]</sup>. In the future, the government should continue to increase the support for the brand construction of agricultural products, and further enhance the brand influence and market competitiveness of Wenzhou characteristic agricultural products through innovative policies and measures and improving the institutional guarantee<sup>[44]</sup>. As shown in Table 5.

Table 5. Policy support and institutional guarantee of Wenzhou Municipal Government

Policy support measures	Institutional safeguard measures	Marketing activities	Online sales strategy
grant-in-aid	Quality and safety supervision system	Hold agricultural products trade fairs	Cooperate with e-commerce platforms
tax preferences	Intellectual property rights protection mechanism	Hold the agricultural products promotion meeting	Live online sales
Set up special funds	Laws and regulations have been improved	Establish a brand publicity platform	E-commerce promotion activities
Policy guidance and support	Agricultural product quality and safety traceability system	Build a communication and display platform	Use of digital marketing tools

## 5.2. Technical support and talent training

In the digital era, technical support and talent training have become the indispensable cornerstone of Wenzhou characteristic agricultural products brand construction. Technical support can not only improve the production efficiency and quality of agricultural products, but also provide scientific basis and decision-making support for brand building through data analysis and intelligent management. Talent training is the key to ensure the effective application of technology and continuous innovation.

The importance of technical support in Wenzhou characteristic agricultural product brand construction is self-evident. By introducing advanced agricultural technologies, such as precision agriculture, the Internet of Things and big data analytics, farmers are able to achieve real-time monitoring of soil, climate and crop growth status, thus to optimize planting plans and improve yield and quality<sup>[45]</sup>. By the application of intelligent irrigation system, a grape planting base in Wenzhou not only saves water resources, but also significantly improves the sweetness and taste of grapes, making them obtain a higher brand premium in the market.

Talent training is the premise of technical support to fully play its role. Wenzhou area should increase the training of agricultural science and technology talents, and establish the training mode of industry, university and research integration through the cooperation with universities and scientific research institutions. For example, Wenzhou University has cooperated with local agricultural enterprises to set up a training base for agricultural science and technology talents, to provide practical opportunities for students, but also to provide a large number of talents with professional skills for enterprises<sup>[45]</sup>.

Investment in technology research and development and talent training is also crucial. The government should introduce relevant policies to encourage enterprises to increase investment in technology research and development, and should also provide financial and policy support to help enterprises introduce and train high-level talents<sup>[47]</sup>. Enterprises should establish a sound talent incentive mechanism to attract and retain excellent talents, and provide continuous technical support for brand construction<sup>[48]</sup>.

Under the dual drive of technical support and talent training, the brand construction of Wenzhou characteristic agricultural products will usher in new development opportunities<sup>[49]</sup>.

Through continuous innovation and optimization, Wenzhou agricultural products can not only occupy a place in the local market, but also show its unique brand charm in the international market<sup>[50]</sup>. In the future, with the continuous progress of technology and the continuous expansion of the talent team, Wenzhou characteristic agricultural products brand will usher in a broader space for development, and inject new vitality into the local economic and social development<sup>[51]</sup>.

Technical support and talent training are important guarantees for the brand construction of Wenzhou characteristic agricultural products in the digital era. By strengthening technology research and development and talent training, Wenzhou agricultural products brand will be able to stand out in the fierce market competition and achieve sustainable development<sup>[13]</sup>. As shown in Table 6.

Table 6 Technical support and talent training to the brand building of the featured agricultural products

dimension	content	elaborate
technical support	precision agriculture	Advanced technology is introduced to monitor soil, climate and crop growth status in real time, and optimize planting schemes
	Internet of things	Realize the intelligent monitoring and management of agricultural production environment
	Big data analysis	Analyze the production data to provide a scientific basis for decision-making
	Optimize the planting plan	Improve the yield and quality of agricultural products
personnel training	Industry-university-research integration training mode	Cooperate with universities and scientific research institutions to train talents with professional skills
	practical teaching	Cooperate with agricultural enterprises to provide students with practice opportunities and improve their practical ability
	Scientific research cooperation	Cooperate with scientific research institutions to promote the innovation in agricultural science and technology
Government and enterprise input	policy support	We will introduce relevant policies to encourage enterprises to invest in research and development, and provide financial and policy support
	Enterprise talent incentive mechanism	Establish an incentive mechanism to attract and retain excellent talents, and provide technical support for brand building

development opportunity	market competition	Take a place in the local market, in the international market to show the brand charm
	Technological progress and talent growth	With the progress of technology and the expansion of the talent team, the brand development space will be further expanded

## 6. Conclusion and outlook

This paper deeply discusses the current situation, path selection and safeguard measures of the brand construction of Wenzhou characteristic agricultural products in the digital era. Through a large number of data analysis and field research, the paper finds that Wenzhou characteristic agricultural products have made some achievements in the brand construction, but it still faces many challenges. Although Wenzhou tea, bayberry and other agricultural products enjoy a high visibility in the domestic and foreign markets, but there is still room for improvement in the brand value and market competitiveness. Although the application of digital technology provides new opportunities for brand building, in practice, many farmers and enterprises have limited mastery of digital tools, leading to the failure to give full play to their technological advantages.

Specifically, this paper finds that the brand positioning and differentiation strategy of Wenzhou characteristic agricultural products are particularly important in the digital era. Through accurate brand positioning, such as positioning Wenzhou tea as "high mountain organic tea", it can effectively improve the market competitiveness of the products. At the same time, the implementation of the differentiation strategy, such as through the unique packaging design and the integration of cultural elements, makes the products stand out from many similar products. There are still deficiencies in implementing brand communication and marketing strategies, especially in social media and content marketing, and many companies have yet to fully take advantage of these emerging channels to increase brand influence.

Looking forward to the future, the prospect of Wenzhou characteristic agricultural products brand construction is full of hope. With the continuous development and popularization of digital technology, we have reason to believe that Wenzhou agricultural products brands will usher in new development opportunities. The government should continue to increase the policy support and capital investment for the brand construction of agricultural products, especially in the digital transformation and talent training, to provide a solid guarantee for the brand construction<sup>[52]</sup>. At the same time, enterprises should actively explore new marketing models, such as live streaming with goods and social e-commerce, to promote products in a way closer to consumers<sup>[53]</sup>.

This study also has some limitations. Due to the limitation of time and resources, the teams research scope was mainly concentrated in some parts of Wenzhou, and failed to fully cover all featured agricultural products. The dynamics and complexity of brand building in the digital era make the research results may have some timeliness problems. Therefore, future research should further expand the scope of research, deeply explore the brand building path of different regions and different types of agricultural products, and put forward more forward-looking suggestions based on the latest development trend of digital technology.

## References

[1] Liu Kun. Traditional Chinese medicine industry: who falls the moon?]. China Customs, 2001, (07): 17-20.

- [2] FZ / T 07005-2020. Evaluation index system for green supply chain management enterprises in the textile industry. Ministry of Industry and Information Technology, PRC, 2020-04-16.
- [3] Zhang Tianlei, Sun Bangjin. The practical path of strengthening the construction of spiritual civilization under the perspective of cultural confidence —— Take Wenzhou as an example [J]. Journal of Wenzhou Vocational and Technical College, 2023,23(03):7-14.DOI:10.13669/j.cnki.33-1276/z. 2023.033.
- [4] Xu Mengying, Atiuri Sick. Research on the development status and countermeasures of leisure agriculture in Urumqi County [J]. Hebei Agricultural Machinery, 2023,(18):157-159. DOI: 10.15989/j. cnki.hbnjzss. 2023.18.017.
- [5] Wang Yapeng. Problems and countermeasures to be solved for the sustainable development of agriculture in China [J]. Rural economy in China, 1998, (05): 52-56.
- [6] Li Ahong, Li Muyang, Xu Shilin, et al. Research on rural e-commerce to help the development of agricultural products [J]. National circulation economy, 2023,(11):13-16.DOI:10.16834/j.cnki.issn1009-5292.2023.11.041.
- [7] CAI Wei. Research on the influencing factors and development countermeasures of the development of agricultural products e-commerce in Wenzhou city [D]. Zhejiang Ocean University, 2022.DOI:10.27747/d.cnki.gzjhy. 2022.000552.
- [8] Ding Fang. Research on the Practical Ability Training of students majoring in Ideological and Political Education in Universities [D]. Changchun University of Science and Technology, 2023.DOI:10.26977/d.cnki.gccgc. 2023.000034.
- [9] Jing Xiaoting. Analysis of the impact of financial services on the development of real estate economy [J]. Chinas Collective Economy, 2024, (09): 33-36.
- [10] Control system and method based on SOA. Chengdu University of Information Technology, Invention Patent, 2018-12-29.
- [11] Wang Hui, Cheng Xiaoqing, Yin Sijing. Theoretical exploration and speculation of urban micro-renewal —— Teaching exploration of "Dashilan micro-renewal" (2) [J]. World Architecture, 2018,(06):110-114+126.DOI:10.16414/j.wa. 2018. 06.019.
- [12] TSZY132181021020189938.2018-12-31.
- [13] Xie Lingxi. Research on the effectiveness of regional public brands enhancing the value of characteristic agricultural products in Guizhou Province [J]. Southern Agricultural Machinery, 2024,55 (07): 118-122.
- [14] Expand the scope of public interest litigation to ensure the high-quality development of the pilot zone. Legal Daily; 2021-08-24 (edition: 06 edition)
- [15] Sun Huamei. On the brand construction strategy of agricultural products with Chinese characteristics combined with the experience of America and Japan [J]. World Agriculture, 2016,(06):36-39.DOI:10.13856/j.cn11-1097/s. 2016.06. 007.
- [16] Summary of 2015 semi-annual Report of Better Life Commercial Chain Co., Ltd. Securities Times; 2015-08-29 (Edition: B094)
- [17] Ding Yannan. Study on the relationship between the heterogeneity of senior management team and business model innovation in agricultural enterprises [D]. Shanghai Ocean University, 2017.
- [18] Chen Zhe. Opportunities and Challenges of the development of Wenzhou Logistics industry under the background of "Belt and Road" [J]. Modern commerce and Industry, 2019,40(01):26-28.DOI:10.19311/j.cnki.1672-3198.2019.01.014.
- [19] Lin Shaofang. Germplasm resources of Dendrobium and endophyte dendophytes in Yalong Orchid Nature Reserve in Guangxi [D]. Guangxi University, 2008.
- [20] On the Restoration and Construction of Ecological River in Jinshan Modern Agricultural Park Shen Zhenyun, Water Conservancy Drainage and Irrigation Management Station of Langxia Town, Jinshan District, Shanghai, Shanghai, 201500; The Second Yangtze River Delta Science and Technology Forum —— Water Environment Management Theory and Practice of Harmony between Man and Nature; 2005-09-01

- [21] Tian Ruixing. Research on marketing strategy of diesel engine products of Tianjin Company [D]. Hebei University of Technology, 2012.
- [22] Chen Yahui. Research on brand competitiveness enhancement of Xinjiang Characteristic Agricultural products [D]. Shihezi University, 2014.
- [23] Lin Lanlan. Research on brand construction of Characteristic agricultural products in Anhui Province [D]. Anhui Agricultural University, 2013.
- [24] About the competitive strategy and the dynamic development of production system. 2022-01-01.
- [25] Tian Juan. Research on the path to enhance the international competitiveness of Chinas cosmetics industry under the new situation [D]. Northern University for Nationalities, 2022.DOI:10.27754/d.cnki.gbfmz. 2022.000252.
- [26] Zhang Yue. A Research on the optimization of company manager performance appraisal system [D]. Shandong Normal University, 2023.DOI:10.27280/d.cnki.gsdsu. 2023.001037.
- [27] The State Food and Drug Administration issued a document, will start the drug traceability system!\_ Big You Yin xiang \_ Sina blog. 2018-12-31.
- [28] Xin Zhang. Research on regional public brand construction of High-quality Agricultural products in Jilin Province [J]. Cooperative Economy and Technology, 2021,(06):72-74.DOI:10.13665/j.cnki.hzjyjkj. 2021.06.031.
- [29] Notification of Ministry of Industry and Information Technology on the activity of "Industrial Quality Brand Construction Year" in 2012; Ministry of Industry and Information Technology Section Letter [2013] No.55; 2013-02-06
- [30] Li Yezheng. Evaluation and promotion strategy of brand competitiveness of Guangxi characteristic agricultural products [J]. Rural Economy and Science and Technology, 2019,30 (12): 155-157.
- [31] Heilongjiang Reading brand newspaper Corps Daily; 2023-11-10 (edition: 01 edition)
- [32] Xinhua Daily; 2021-09-01 (Edition: 08)
- [33] Wenzhou has increased its efforts to support agricultural mechanization. Rural Information Report, 2014-04-19. (Edition: C2 edition)
- [34] Huang Hua; He Xiaoqing; Nanfang Daily; 2021-03-01 (edition: A16)
- [35] Guangxi: Develop characteristic industries to create "new three products". Farmers Daily, 2017-08-09.
- [36] Gansu Provincial Department of Agriculture and Animal Husbandry. Gansu Province Department of Agriculture and Animal Husbandry on the implementation of the Opinions of the CPC Gansu Provincial Peoples Government on further Strengthening the Work of Food and Drug Safety. Gan AD [2018] No.71,2018-02-27
- [37] Duan Yeheng. Construction of agricultural product quality and safety supervision system [J]. Rural Science Experiment, 2024, (01): 54-56.
- [38] Xiang peak. Brand story under the new normal of economy Pien Tze Huang wonderful interpretation of Chinas independent brands [J]. Market Watch, 2018, (06): 12-15.
- [39] Song Bin; Qingxu Rural Commercial Bank provides all-round financial support for farmers. China Rural Credit Cooperation News; 2024-04-10. (Edition: 02)
- [40] Ma Yunjia, Zhu Shengnan, Zhang Kaiwen, et al. Demonstration study on disaster shelter layout optimization based on GIS: Take Haikou City, Hainan Province as an example [J]. Water conservancy and hydropower technology (Chinese and English), 2022,53(10):101-109.DOI:10.13928/j.cnki.wrahe. 2022.10.007.
- [41] Zhang Zhihua, Li Can, Sun Tao. Research on the brand development of regional characteristic agricultural products in Hainan Province — Take "Haitou sweet potato" as an example [J]. Tropical Agricultural Sciences, 2023,43 (06): 95-99.
- [42] Xiao Guanggen, Lu Shijing. The influence of "stickiness knowledge" on provincial economic growth in China — Analysis based on spatial measurement model [J]. Management Research at CUHK, 2013,8 (04): 15-33.

- [43] Problems and countermeasures in the brand construction of agricultural products (full text). 2022-08-05.
- [44] Lishui "soil" goods so break into the world. Rural Information Daily, 2012-12-12.
- [45] Wei Hongwen. On the promoting effect of agricultural economic management on rural revitalization in the new era [J]. Agricultural Development and Equipment, 2024, (01): 238-240.
- [46] Song Tianqi, Shi Chengyao. On the necessity of social forces to participate in vocational education [J]. Modern Vocational Education, 2021, (31): 138-139.
- [47] Inner Mongolia graphite industry sustainable development of the countermeasures and suggestions. China Mining News, 2023-08-31.
- [48] Song Liqing, Storage and Transportation Department of Anqing Branch of Sinopec; 2020 Course Teaching and Management Cloud Forum; 2020-12-10
- [49] Tian Lili. Research on the regional brand construction of agricultural products under the industrial cluster in the post-epidemic era —— Take Jurong City as an xample [J]. The China market, and 2023,(27):118-121.DOI:10.13939/j.cnki.zgsc. 2023.27.118.
- [50] Chinese documentaries show the charm of China in the international market. Hunan Workers Daily, 2019-07-05 (edition: 08 edition)
- [51] Thinking and practice of promoting collaborative innovation in new local undergraduate colleges. 2015-12-31.
- [52] Lu Lu Lu. Research on the optimization of local government support path in the regional brand construction of agricultural products [D]. Northwestern University, 2021.DOI:10.27405/d.cnki.gxbdu. 2021.000557.
- [53] Chengdao spring. Research on management optimization of new product research and development project in Shandong Province [D]. Qilu University of Technology, 2015.